

We claim:

1.

1       A door latch for a door including:  
2       a housing;  
3       a latch bolt supported on the housing for sliding movement between  
4       an extended latched position and a retracted unlatched position;  
5       an actuator arm supported on the housing for moving the latch bolt  
6       between the latched and unlatched positions, the actuator arm extending  
7       between a handle end and a linkage end;  
8       a linkage interconnecting the actuator arm and the latch bolt to  
9       transmit movement between the actuator arm and the latch bolt, the linkage  
10      including a first end pivotally connected to the latch bolt and a second end  
11      pivotally connected to the actuator arm; and  
12      a pivot pin supported on the housing and extending through the  
13      actuator arm at a point spaced away from the linkage end whereby the  
14      actuator arm will move the latch bolt to the unlatched position with  
15      movement of the handle end in either a clockwise or counterclockwise  
16      direction about the pivot pin.

2.

1       The door latch of claim 1 further including a spring mechanism  
2       associated with one of the actuator arm and the latch bolt for biasing the  
3       latch bolt into the latched position.

3.

1           The door latch of claim 1 further including at least one roller  
2 supported on the housing adjacent the latch bolt for supporting the latch  
3 bolt in its sliding movement.

4.

1           The door latch of claim 3 further including first and second rollers  
2 supported on the housing above the latch bolt, and third and fourth rollers  
3 supported on the housing below the latch bolt for supporting the latch bolt  
4 in its sliding movement.

5.

1           The door latch of claim 2 wherein the spring mechanism includes a  
2 washer disposed on the pivot pin, a first torsion spring disposed on one side  
3 of the washer, and a second torsion spring disposed on the other side of the  
4 washer, each spring having a first end contacting the washer and a second  
5 end contacting the actuator arm.

6.

1           The door latch of claim 4 wherein the rollers are sheaves each  
2 supported on the housing with a post and a bearing assembly disposed  
3 between the post and the sheave.

7.

1           The door latch of claim 1 wherein the housing includes a base plate  
2 having a door mounting plate and a stabilizing flange extending  
3 perpendicularly down from the door mounting plate whereby the base plate  
4 is adapted to be mounted at the edge of the door with the base plate on a

5 surface of the door and the stabilizing flange on an adjacent perpendicular  
6 surface of the door.

8.

1 The door latch of claim 7 wherein the housing includes a dust cover  
2 fastened to the base plate.

9.

1 A door latch for a door including:  
2 a housing;  
3 a latch bolt supported on the housing for sliding movement between  
4 an extended latched position and a retracted unlatched position;  
5 an actuator arm supported on the housing for moving the latch bolt  
6 between the latched and unlatched positions; and  
7 a linkage interconnecting the actuator arm and the latch bolt to  
8 transmit movement between the actuator arm and the latch bolt; and  
9 at least one roller associated with the latch bolt for supporting the  
10 latch bolt in its sliding movement relative to the housing whereby the  
11 friction of the sliding movement is minimized.

10.

1 The door latch of claim 9 further including first and second rollers  
2 supported on the housing above the latch bolt, and third and fourth rollers  
3 supported on the housing below the latch bolt for supporting the latch bolt  
4 in its sliding movement.

11.

1           The door latch of claim 10 wherein the rollers are sheaves each  
2 supported on the housing with a post and a bearing assembly disposed  
3 between the post and the sheave.

12.

1 A vertical sliding door assembly including:

2           first and second door tracks oriented vertically and spaced apart  
3 from each other, with at least one of the tracks defining a top receiver hole  
4 near the top end of the track and a bottom receiver hole near the bottom end  
5 of the track;

6           a sliding door supported for vertical sliding movement in the first  
7 and second tracks between a down position and an up position, the door  
8 having a top edge and a bottom edge;

9           a latch bolt supported on the door near the bottom edge for sliding  
10 movement between an extended latched position in which the bolt extends  
11 into one of the top and bottom receiver holes, and a retracted unlatched  
12 position in which the bolt retracts out of the holes;

13           an actuator arm supported on the door for moving the latch bolt  
14 between the latched and unlatched positions;

15           a linkage interconnecting the actuator arm and the latch bolt to  
16 transmit movement between the actuator arm and the latch bolt; and

17           a pivot pin supported on the door and extending through the  
18 actuator arm near one of its ends whereby the actuator arm will move the  
19 latch bolt to the unlatched position with movement of the handle end in  
20 either a clockwise or counterclockwise direction about the pivot pin.